



LISBON
**SCHOOL OF
ECONOMICS &
MANAGEMENT**
UNIVERSIDADE DE LISBOA

MASTER OF BUSINESS ADMINISTRATION - MBA

PROJECT

SME INTERNATIONALIZATION: THE CASE OF JIX

RUBEN MANUEL SILVA MATOS SOBRAL DA COSTA

OCTOBER – 2019



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ABSTRACT

The main objective of this thesis is to obtain a strategic definition and an internationalization plan that will guide a Portuguese Small and Medium Enterprise (SME) in its internationalization process. Therefore, it will be possible to follow its international expansion objectives and enterprise main objectives, namely: i) to achieve revenues of 5 million euros per year, within four years; ii) with 100% of sales from the foreign market and iii) covering 50% of the worldwide market.

In an increasingly globalized world, SMEs need to rely on foreign markets to increase their economic and financial performance, their level of competitiveness and this way their survival. The European Union is going through one of the biggest crises of recent decades and Portugal is one of the most affected countries, presenting a low survival rate for domestic companies and high saturation of the internal market. To survive, domestic companies need to invest in new markets where new business opportunities emerge, allowing them to invest in their growth and create long-term sustainability conditions. Portuguese companies need to defend a position in the international market, especially in the context of the European Union.

The theoretical research conducted for this thesis explores concepts, modes and processes related to SMEs internationalization and strategic management, and applies that theoretical base to an internationalization plan for a case of a Portuguese SME.

As action research, the complementary data of the target SME of the study was investigated through its Internal and external environment, and the identification and characterization of the main markets selected as destination countries (Germany, France, Italy, China and USA). In order to achieve the proposed main objectives of the SME, the internationalization strategy is presented and an internationalization plan was organized and defined according to schedule and budget required for the SME's Board of Directors.

KEYWORDS: SME; Internationalization Strategy; Internationalization Plan; Markets; Entry Modes.

RESUMO

O principal objetivo desta tese é obter uma definição estratégica e um plano de internacionalização, que guiarão uma Pequena e Média Empresa (PME) portuguesa no seu processo de internacionalização. Desta forma, será possível definir uma estratégia e metodologia de internacionalização tendo em conta os objetivos de expansão internacional e os principais objetivos comerciais da empresa, nomeadamente: i) alcançar receitas de 5 milhões de euros por ano, dentro de 4 anos; ii) com 100% das vendas no mercado externo e iii) abrangendo 50% do mercado mundial.

Num mundo cada vez mais globalizado, as PME's precisam dos mercados internacionais para aumentar seu desempenho económico-financeiro, aumentar o seu nível de competitividade e assegurar a sua sobrevivência. A União Europeia passa por uma das maiores crises das últimas décadas e Portugal é um dos países mais afetados, apresentando baixas taxas de sobrevivência das empresas nacionais e com elevada saturação do mercado interno. De forma a assegurarem a sua sobrevivência, as empresas nacionais precisam de investir em novos mercados onde surgem novas oportunidades de negócios, permitindo que invistam no seu crescimento e que sejam criadas condições de sustentabilidade a longo prazo. As empresas portuguesas precisam de defender uma posição no mercado internacional, especialmente no contexto actual da União Europeia.

A pesquisa teórica realizada para esta tese explora conceitos, modos e processos relacionados com internacionalização e gestão estratégica de PME's, e aplica essa base teórica a um plano de internacionalização para um caso específico de uma PME portuguesa.

Desenvolvida como pesquisa action-research, os dados complementares da PME alvo do estudo, foram investigados através da análise do seu ambiente interno, externo e através da identificação e caracterização dos principais mercados selecionados como os principais (Alemanha, França, Itália, China e EUA). Para alcançar os principais objetivos propostos para esta PME, a estratégia de internacionalização é apresentada e complementada com um plano de internacionalização definidos de acordo com o cronograma e o orçamento requeridos e exigidos pelo Conselho de Administração da referida PME.

PALAVRAS-CHAVE: PME; Estratégia de Internacionalização; Plano de Internacionalização; Mercados; Modos de Entrada.

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1 INTRODUCTION

1.1. Theme

This thesis will study and support the internationalization process of a Portuguese Small and Medium Enterprise (SME). Due to confidentiality restrictions, the enterprise from now on will be referred to as JIX. The main objective of this thesis is to obtain a strategic definition and an internationalization plan that will support JIX on its internationalization process, in order to implement its international expansion objectives. The main objectives are: i) to achieve revenues of 5 million euros per year, within four years; ii) with 100% of sales from the foreign market and iii) covering 50% of the worldwide market.

Why JIX? The selection of the company JIX results from the professional objective of preparing a SME company to move to the international market in order to increase the activity autonomy of a company, operating in the industry of machinery for plastic injection. The Portuguese molding industrial sector and machinery manufacturing have great potential and dynamism. However, the internal and external market is very competitive. This work intends to help the company to develop strategies to select potential international markets and entry modes for this SME.

Why Internationalization? Besides JIX sales and revenue objectives, the dynamism of Portuguese exports in recent years and expansion into new markets were vital factors in the recovery of the Portuguese economy, while facing the financial crisis of the last decade. The increasing interdependence of countries and markets is an unavoidable reality, with companies competing in a global market, which brings them new and constant business challenges. Therefore, going international is not an option but a way to survive.

1.2. Research problem

This thesis intends to develop an internationalization plan that will guide an SME for its internationalization process. Due to the importance of the international development of the company, it is vital to ask the following question as a starting point:

How to obtain a strategic definition and internationalization plan that will allow JIX's internationalization process to achieve its international expansion objectives?

1.3. Research questions

This thesis intends to develop the plan for the process of internationalization of this SME. The main research questions identified for this thesis are the following:

1. What are SMEs and the current situation of Portuguese SMEs?
2. What is internationalization, market entry modes, drivers, barriers, and risks of internationalization?
3. What is the best strategic management process?
4. What are the main markets for JIX's internationalization?
5. What is the best JIX internationalization strategy and internationalization plan?

1.4. Expected results

The preparation of this thesis aims to develop a plan that will guide the internationalization process of JIX in order to help the company, suggesting the most appropriate strategies to launch the company internationally. The expected results and contributions of this thesis will allow us to accomplish the following specific objectives:

1. Identification of JIX's internationalization target markets.
2. Definition of JIX's internationalization strategy.
3. Identification of the suitable entry modes, correspondent barriers, and risks for JIX, for each target market.
4. Select a model and propose a 2-year action plan to JIX overcome the barriers, minimize risks, and develop its international expansion objectives.

1.5. Structure

The structure of this thesis is based on nine chapters. This introductory chapter highlights the importance of choosing this project, as well as the objectives proposed with this work. In chapter 2, the literature review addresses concepts related to SMEs, theoretical internationalization framework, including market entry modes, barriers and risks, and strategic management process models. Next, chapter 3, deals with the methodology, referring to the research framework process carried out throughout this project. Chapters 4 and 5 deal with the internal and external environment scanning, respectively. Afterward, chapter 6 specifies the identification of JIX main markets and chapter 7 specifies the possible entry modes, barriers and risks related to internationalization.

Chapter 8 presents JIX's internationalization plan. After the theoretical framework discussed in chapter 2 and the results and analyses collected in the case study of the company, this chapter has the purpose of framing this information in order to define the best strategy for the JIX internationalization process. Finally, chapter 9 presents the conclusions. This is the closing chapter, summarizing what was developed throughout the document and reinforcing the main conclusions, and requesting reflection and action from JIX's Board of directors.

2. LITERATURE REVIEW

In this chapter, the literature review was developed on different aspects, namely the concept and framework of an SME company, the importance that the internationalization process can have for SMEs, and the strategic management. In this chapter, a literature review will be developed on different aspects, namely the concept and framework of an SME company, the importance that the internationalization process can have for SMEs, and the strategic management. The research will be conducted in the following areas: SME, internationalization, and strategic management.

2.1. SME

2.1.1. SME definition

There is no universally accepted or international standard definition of a small or medium-sized enterprise (SME). Even so, "SMEs are non-subsidary, independent firms which employ fewer than a given number of employees. This number varies across countries. The most frequent upper limit designating an SME is 250 employees, as in the European Union. However, some countries set the limit at 200 employees, while the United States considers SMEs to include firms with fewer than 500 employees. Small firms are generally those with fewer than 50 employees, while micro-enterprises have at most ten or in some cases, five workers" (OECD, 2005, p. 17).

In 2003, the European Commission indicated to all state members the following recommendation (European Union 2003/361/EC, 2003) of definition of SME: The small or medium-sized enterprise that meets the criteria set out in European legislation: "the category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million" (European Union, 2003,

p. L134/39). This recommendation adopted by the Portuguese Government included in Decree-Law 372/2007, annex, no. 1, article 2, of November 6.

2.1.2. SME categories, criteria and types

The European Union SME definition distinguishes between three different categories of enterprises according to defined criteria and types. Each category corresponds to a form of relationship that an enterprise could have with another. This distinction is necessary to establish a clear picture of an enterprise's economic situation and to exclude those that are not genuine SMEs (European Commission, 2015).

The SME categories are:

- Category 1: Autonomous firm, if the enterprise is either completely independent or has one or more minority partnerships (each less than 25 %) with other enterprises (European Commission, 2003, Article 3.1).
- Category 2: Partner firm, if holds, either solely or with other enterprises, between 25% and 50% of another enterprise, the relationship is deemed to be between partner enterprises (European Commission, 2003, Article 3.2).
- Category 3: Linked enterprise, if holds, either solely or with other enterprises more than the 50% threshold, these are considered linked enterprises (European Commission, 2003, Article 3.3).

The SME criteria are:

- Criteria 1: Staff headcount - covers full-time, part-time, temporary and seasonal staff and includes the following: employees; persons working for the enterprise who have been seconded to it and are considered to be employees under national law (this can also include temporary or so-called interim employees) (European Commission, 2003, Article 5);
- Criteria 2: Annual turnover is determined by calculating the income that an enterprise received during the year in question from the sale of products and provision of services falling within the company's ordinary activities, after deducting any rebates. Turnover should not include value-added tax (VAT) or other indirect taxes (European Commission, 2003, Article 5);
- Criteria 3: Annual balance sheet total refers to the value of a company's main assets (European Commission, 2003, Article 4).

The SME types are:

- Type 1: The category of micro-enterprise is defined as a company employing less than 10 people and whose annual turnover or total annual balance sheet does not exceed EUR 2 million;
- Type 2: The category of small enterprise is defined as a company employing less than 50 persons, and whose annual turnover or total annual balance sheet does not exceed EUR 10 million;
- Type 3: The category of medium-sized enterprises is made up of companies employing less than 250 people and having an annual turnover not exceeding EUR 50 million or whose annual balance sheet total does not exceed EUR 43 million.

Table I - SME categories by size

	Headcount: annual work unit (AWU)	Annual Turnover	Annual balance sheet total
Micro	<10	≤ EUR 2 million	≤ EUR 2 million
Small	<50	≤ EUR 10 million	≤ EUR 10 million
Medium	<250	≤ EUR 50 million	≤ EUR 43 million

Source: European Commission (2015)

2.1.3. European Union support to SMEs

Recent data from the European Union points to the existence of over 23 million across the EU, of which 99.8% are SME. 92% of these are micro-enterprises, 7% are small businesses and only 1% are medium-sized companies. These data demonstrate that SMEs represent a structural element in the economic structure of the Member States.

According to the European Union (European Commission, 2014), SMEs are the engine of the European economy, because it drives job creation, economic growth and the guarantee of social stability. SME also stimulate entrepreneurship and innovation across the EU and is therefore crucial for promoting competitiveness and employment. In 2013, 21 million SMEs secured 88.8 million jobs in the European Union, with nine out of ten companies being SMEs and generating two out of three jobs. Given its importance to the European economy, SMEs are a significant focus of EU policy and aim to promote entrepreneurship and improve the business environment for SMEs by enabling them to realize their full potential in the current global economy.

The European Union supports European SMEs in a variety of forms, such as grants, loans and in some cases, guarantees. Support is available either directly or through managed at the national or regional level, such as the Structural Funds of the European Union. The European Commission defined (European Commission, 2012) that SMEs can also benefit from a series of non-financial assistance measures in the form of programs and business support services. The assistance is provided in four groups:

- **Thematic funding opportunities:** This type of funding is primarily thematic with specific objectives (environment, research, education), designed and implemented by different European Commission Departments and Executive Agencies. SMEs or other organizations can apply directly to programs. Depending on the program, candidates may also be industrial associations, business associations, business support service providers, and consultants. Co-financing is generally the rule: EU support consists of grants which cover only part of the costs of a project.
- **Structural Funds:** The structural funds (European Regional Development Fund - ERDF] and European Social Fund - ESF) are the main Community financing instruments for SMEs, through the various thematic programs and Community initiatives implemented in the regions. The beneficiaries of the structural funds receive a direct contribution toward financing their projects. It should be noted that program management and project selection are carried out at national and regional levels.
- **Financial instruments:** Most financial instruments are only accessible indirectly, implemented through national financial intermediaries. The European Investment Fund manages many of these instruments.
- **Support for the internationalization of SMEs:** This assistance generally consists of aid to intermediary organizations and public authorities in the field of internationalization in order to help SMEs to access markets outside the EU.

2.1.4. European Union support to SME Internationalization

SMEs represent the vast majority of firms in Europe and provide two out of three jobs but account for far less than half of all exports and imports. When it comes to other forms of internationalization, the participation of SMEs is even more limited (Abel-Koch, et al., 2018). This means that many SMEs are missing out on the benefits often associated with

internationalization, higher productivity, faster growth, more significant innovation and better chances of survival. Public interventions significantly contribute to the functioning of European SME finance markets and help SMEs overcome some of these barriers, increasing the positive effects on the broader economy

Supporting SMEs is the direct support of the European Union economy and this is a crucial priority EU policy and each EU country is responsible for managing the supporting funds on its territory (European Union Commission, 2019). The EU SME strategy as defined in the Small Business Act to Europe, launched by the Commission on June 2008 and revised in 2011, called on the EU and the Member States to support SMEs and encourage them to take advantage of market growth outside the EU, notably through specific support for market approaches and activities business training. The aim is the strengthening and growth of competitiveness and innovation through the European Regional Development Fund, the largest source of EU funding to support SMEs (European Comission, 2014, p. iv).

2.1.5. Incentives program for Portuguese SME Internationalization

The Portuguese incentive program, Portugal 2020 (PT2020), Internationalization Incentive System is currently available for the Internationalization of SMEs. The incentive system aims to strengthen the entrepreneurial capacity of SMEs through the development of their internationalization qualification processes by valuing immaterial competitiveness factors. Beneficiaries are SMEs of any kind and in any legal form (except for the following activities: financial and insurance, defense, lotteries and other betting games). The incentive to be granted for the internationalization of SME projects is calculated by applying a maximum rate of 45% (Lisbon area 40%) non-repayable to eligible expenditure. The project eligibility criteria for the areas of SME qualification and internationalization are as follows: 1) minimum eligible expenditure limit per project of 25,000 euros; 2) to demonstrate that the sources of funding are secured; 3) to demonstrate the effect of the incentive, which is demonstrated whenever the beneficiary has submitted the application prior to the start date of the project work; 4) to have a maximum duration of execution of 24 months, except in duly justified cases; 5) to initiate project implementation within a maximum of six months after notification of the financing decision; 6) do not include the same actions in joint projects and individual projects (Portal dos Incentivos, 2019).

2.1.6. Characterization of Portuguese SMEs profiles

The European Union's (EU) economic and trade relations with foreign markets have changed since the Portuguese accession in 1986. The phenomenon of globalization has intensified and bilateral partnerships are already an unquestionable reality. The Portuguese economy has also undergone profound changes. Portugal went from labor exporter to value-added and even capital goods exporters, with national entrepreneurs venturing into more developed markets. Portuguese SMEs have been particularly affected by the economic recession that the country due to austerity measures and the slowdown of the European economy. Portuguese SMEs face numerous obstacles to accessing credit, which provides them with challenging difficulties to meet medium and long-term financial needs as well as short-term needs such as cash issues. One of the ways to deal with difficult economic situations is towards internationalization.

According to the European Union in Portuguese 2018 SBA Fact Sheet, *“SMEs are the backbone of the ‘non-financial business economy’ in Portugal. They account for more than two thirds (68.4 %) of overall value-added and over three quarters (78.0 %) of employment, against an average of 56.8 % and 66.4 % respectively in the EU as a whole. Micro firms make a uniquely valuable contribution to overall employment, providing around 4 in 10 jobs, against an EU average of 3 in 10 jobs. SMEs in Portugal is smaller than the EU average, employing an average of 2.9 people against 3.9 in the EU. The productivity of Portuguese SMEs, calculated as value-added per person employed, is around EUR 22.000, half the EU average. The forecast for SMEs is favorable, with SME growth projected to continue in 2017-2019. An increase of 10.6 % in SME value-added and 5.7 % in SME employment is predicted for the same period, corresponding to around 144.600 new SME jobs (European Union, 2018).*

2.2. SME Internationalization

Simões (1997) defined internationalization as a process through which a company strengthens its capacity to “think international” and increases the value-added level of its activities abroad. Also, Welch & Luostarinen (1998) defined as a process of increasing involvement in international operations. In a SME perspective, European Commission (2014) refers to internationalization as including all the activities that a firm establishes *“with a foreign partner: export, import, direct investment (outsourcing or outsourcing), international subcontracting and international technical cooperation. The cross-border level at a*

transnational level in the EU or outside the EU. Internationalization can result in gains of competitiveness that can ultimately translate into better economic performance at national and European level.” (European Commission, 2014, p.10).

Geographic expansion is one of the essential strategies for the growth of companies. It is a particularly important growth strategy for SMEs, whose business space has been geographically confined (Barringer & Greening, 1998). By expanding the customer base through entry into new markets, can reach a higher volume of production and growth. Also, there are differences in market conditions in different geographical areas. When leveraging different markets, companies are in a position to capitalize on market imperfections and achieve a higher return on their resources.

Consequently, many authors emphasize the importance of SMEs to adopt a strategy to seek new opportunities and develop new skills essential to reach a broader range of markets (Lu & Beamish, 2001). In the Portuguese context, this assertion is of particular relevance, because SMEs represent 79% of employment and 66.5% of value-added (European Comission, 2014). Several studies (Fernandes, 2014; Simões, 2010; Farto, 2015) argue that the internationalization of companies is fundamental to the development of our economy. However, for this to happen, companies must review their behavior and have competitive advantages that allow them to take advantage of the full range of opportunities that the phenomenon of globalization provides.

However, current literature still identifies that many SMEs often lack the resources needed to be successful abroad, such as researching foreign markets, adapting products and developing international channels (Knight G. , 2000) and face a more structural handicap in the form of limited financial and human resources (Pangarkar, 2008).

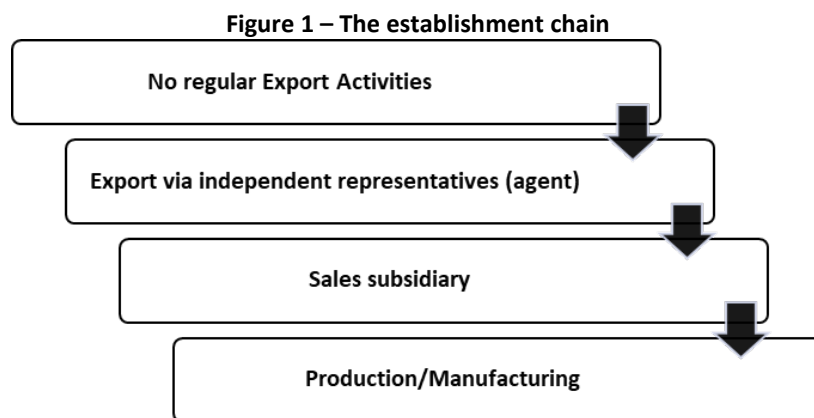
2.2.1. Internationalization - Theoretical approaches

The literature review of internationalization theories allows to group these theories/models into three main categories:

1. **Economic approaches:** models oriented towards the optimization of resources and financial returns, like the market imperfections (Hymer, 1960), product life cycle (Raymond Vernon 1966 as cited in Mulder, 2012), the Internalization Theory (Buckley & Casson, 1998), Dunning's Eclectic Paradigm (Dunning J. H., 1998) and evolutionist perspective (Kogut, 1993). These theories are based on an economic approach that seeks to analyze the determinants

and strategies of Foreign Direct Investment (FDI). The economic approach of these theories, while focusing on multinational corporations and strategies are subject to criticism. In addition to assessing internationalization in a static manner, it only focuses on FDI and multinational enterprises. Therefore, SMEs are forgotten, as well as the existence of several decision criteria (risk, return, control and resources) that need to be considered when deciding the entry mode into foreign markets (Pereira & Pinto, 2017).

2. **Behavioral approaches:** gradual stages of internationalization processes, as the Uppsala model (Johanson & Wiedersheim-Paul, 1975); (Johanson & Vahlne, 1977) and the Uppsala model in the perspective of Networks (Johanson & Vahlne, 2009). The Uppsala model, developed by Johanson and Wiedersheim-Paul (1975) and later supplemented by Johanson and Vahlne (1977), seeks to explain different behavior patterns in the internationalization process. The internationalization process is considered a process by which the company gradually increases its international involvement. Thus, according to this model, there is an interaction between the development of the knowledge acquired about the external markets and the company's commitment to its decisions and operations for commercial purposes (Pereira & Pinto, 2017).



Source: Adapted from Johanson & Wiedersheim-Paul (1975)

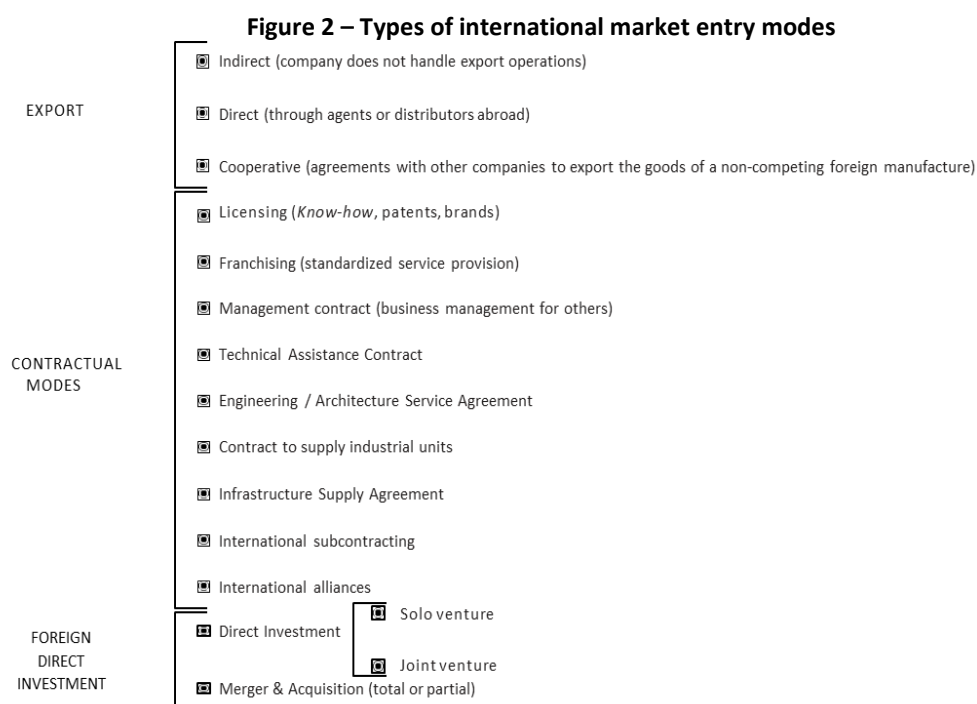
3. **Born Globals Firms or International New Ventures (INV)** (Oviatt & McDougall, 1994; Simões V. e., 2001; Knight & Liesch, 2016): environmental and technological changes led firms to internationalize faster. This approach goes against the traditional incremental vision of the internationalization process (Simões V. C., 2019). In the previous models, the internationalization is a slow and time-consuming process, but INV follows a rapid internationalization path and tends to bring higher risks during its expansion. Hollensen (2011, p. 78) assumes that Born Globals tend to be managed by visionary entrepreneurs or managers, who see the world as one market and are decisive in the choice to follow the

strategy of internationalization. Unlike large multinationals, these companies, commonly characterized as SMEs, exhibit operational procedures that allow them to react more quickly to changing environments.

2.2.2. Entry modes

Entry modes have been defined by Root (1987, p.5) as an institutional arrangement that makes possible the entry of a firm's product, technology, human resources skills, management or other resources into a foreign country. Simões (2019), assumes that international operation modes can be classified into three types:

1. **Exports Modes:** Traditionally considered as the first step to enter international markets, exporting is the simplest route of internationalization and the most used by SMEs due to the lack of resources (Hollensen, 2011). Previously, Hollensen (2004) divided export into three different types: direct, indirect, and cooperative export. The direct occurs when the producing company has direct contact with the first intermediary and deals with all the details of the export of the product, including export through foreign-based agents and distributors (independent intermediaries). The indirect one, as the name says, the producing company does not interact directly in the export activities. This interaction is made by other national economic agents, which means that it has no share in foreign sales. The cooperative export mode involves agreements with other companies regarding the performance of export functions.



Source: Adapted from AICEP (2013).

2. **Contractual Modes:** differ from export entry modes in the way that they are primarily a source and vehicle for transferring knowledge, skills and sometimes even export opportunities. Some examples of contractual modes are alliances, licensing, franchising management contracts, turnkey operations, and international sub-contracting (Hollensen, 2004). According to Wach (2014), these entry modes relate to cooperative relations implemented through contacts with foreign partners, mostly manufacturers.

3. **Direct Investment** (hierarchical Modes): applies when the option is to open a branch or subsidiary by setting up its premises or buying a local business (Wach, 2014), with the intention of establishing a lasting interest. Direct investment has the following advantages for companies: expand as sales; acquire resources and minimize investment risks. The foreign investment represents the territorial expansion of business activities, not subject to the same conditions as domestic investment. In existing trade between two countries, there may be imposition of import tariffs, the influence of variations exchange rates and additional political and environmental factors (Dunning J. , 1972).

2.2.3. Barriers of market entry modes

Hollensen (2011) considers that the main factors that hinder the beginning of internationalization are: insufficient knowledge and financing, lack of conceptions with foreign markets, lack of commitment, lack of distribution channels in international markets, management emphasis in the development of the domestic market, increased costs of production, distribution, and financing. This author subdivides the barriers that affect the internationalization process into three groups: general market risks, commercial risks, political risks. The first group includes the relative distance of the markets, competition with other companies, differences in the way products are used, linguistic and cultural differences, complications to find the best distributor, differences in product specifications for international markets and complexity transportation services to overseas buyers. In commercial risks, the author includes the exchange rate, the difficulties in obtaining financing, delays or damages in the dispatch or distribution of the products and the lack of payment of external customers. Finally, the political risks are the obstacles caused by external market constraints, domestic export policies; difficulties in receiving payments from clients created by hostile governments, lack of government support to overcome barriers to internationalization, lack of incentives for internationalization, high value of domestic currency, high tariffs for imported products, regulations and intricate import processes,

complexity of commercial documents, over-regulation for export, and the existence of civil strife, wars and revolutions that interrupt trade relations. Based on this distinction, Hollensen (2011) classifies the barriers into four categories: internal-domestic (intrinsic problem of the company, related to the market where they are based), domestic-external (difficulties in the domestic market, but that the company does not control), internal (linked to the marketing strategy for foreign markets) and foreign-foreign (barriers not controlled by the company, in the international markets). As companies go beyond the stages of the internationalization process, the higher the barriers and difficulties encountered (Bilkey & Tesar, 1977). With the advancement of the latter, companies perceive that the main obstacles are related to the understanding of commercial practices in foreign markets, the existence of different consumption patterns in each market, the receipt of external clients' restraint and the difficulty in finding adequate representation in international markets.

The leading seven barriers reported by SMEs (European Commission, 2007) are:

1. lack of sufficient working capital to finance exports;
2. difficulty in identifying business opportunities abroad;
3. lack of sufficient information for the market location/analysis;
4. inability to contact prospective clients abroad;
5. difficulty in obtaining reliable representation abroad;
6. lack of time for senior management to deal with internationalization;
7. lack of sufficient staff and qualified personnel.

Also, a survey carried out in 2010 (European Commission & EIM Business & Policy Research, 2010) identified the five following barriers to enterprises, as envisaged by SMEs:

1. the price of the respective product or service;
2. the high cost of internationalization;
3. the quality of the product and the lack of qualified personnel;
4. the specifications of the company's products;
5. the native language.

The most significant hindrance for SMEs is the price of the company's products or services. This, of course, depends on general prices in the domestic market and the level of business efficiency; therefore, specific measures to support internationalization are unlikely to resolve this issue. However, integrating measures to increase business efficiency, either by combining

internationalization and innovation policies or by encouraging the efficient supply of materials, perhaps through direct imports, can be effective.

This 2010 study also identifies external barriers in the business context (EC, 2010, p. 59-60).

The factors that most SMEs considered detrimental to internationalization are the following:

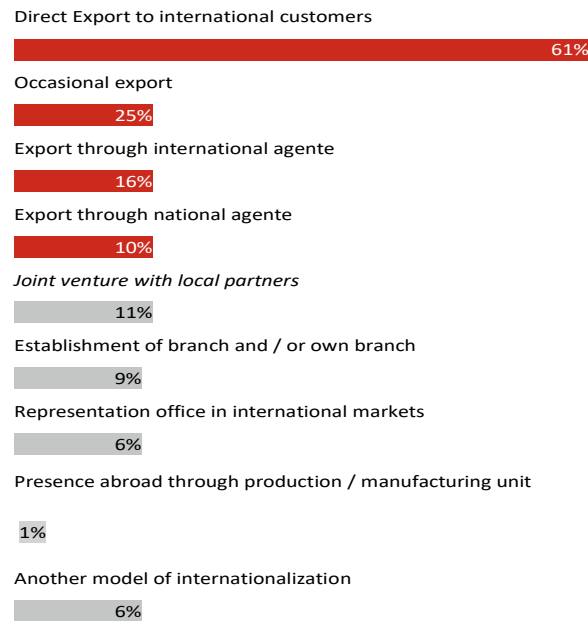
- lack of capital;
- lack of adequate public support;
- lack of adequate information;
- the cost of the documentation required for transport and the associated difficulties;
- different laws and regulations in foreign countries;
- tariff barriers or other trade barriers in the external market;
- cultural differences (including business culture).

Regarding risks, as stated by the European Commission (2014) as a general rule, SMEs are less well equipped than larger companies, in terms of internal competencies and financial or human resources, to meet these challenges. Also, recommends in order to be successful, the definition of policies that support the international expansion of SMEs must begin by understanding the main problems SME can face when they start operating with a foreign partner, like politic, economic or currency risks.

2.2.4. Portuguese SMEs internationalization modes and performance

According to the European Union in Portuguese *“Internationalisation is one of the weakest areas for Portugal; its performance remains below the EU average in the 2018 SBA area. Although more information has been made available since the previous reference period, the involvement of the trade community has further deteriorated, with one of the lowest scores in the EU. Besides, there is still a lack of border agency cooperation, with Portugal being among the worst performers in the EU in this indicator. However, the weight of exports in the gross domestic product (GDP) records a longstanding increasing trend, which dates back from before the financial crisis. From 27 % of GDP in 2009, exports nowadays account for more than 40 % of GDP (European Union, 2018, p. 15)”*.

The INSIGHT 2018 Study results (Câmara de Comércio e Indústria Portuguesa, 2018) confirm that 'export' in different derivatives, remains the prevailing model of internationalization used by Portuguese SMEs. In fact, in the sample, less than 15% have a physical presence in international markets, and only 1% have a productive capacity in these markets. Internationalization for SMEs is almost exclusively synonymous with exports.

Figure 3 - Portuguese SMEs entry mode

Source: INSIGHT 2018 (Câmara de Comércio e Indústria Portuguesa, 2018)

2.3. Strategic management

2.3.1. Definition and benefits of strategic management

Strategic management can be described as a set of managerial decisions and actions that help determine the long-term performance of an organization (Wheelan, Hunger, Hoffman, & Bamford, 2018).

Wheelan et al., 2018, considered that strategic management is crucial for the long-term performance of organizations since research has shown that those organizations that engage in strategic management generally outperform the ones that do not. This improved performance is attributed to the added value of the “optimized fit” between the organization services, structures and processes, and the environment. An organization that engages successfully in strategic management will generally gain the following benefits: a clearer sense of strategic vision for the firm, a sharper focus on what is strategically important and an improved understanding of a rapidly changing environment.

2.3.2. Strategic Management Processes

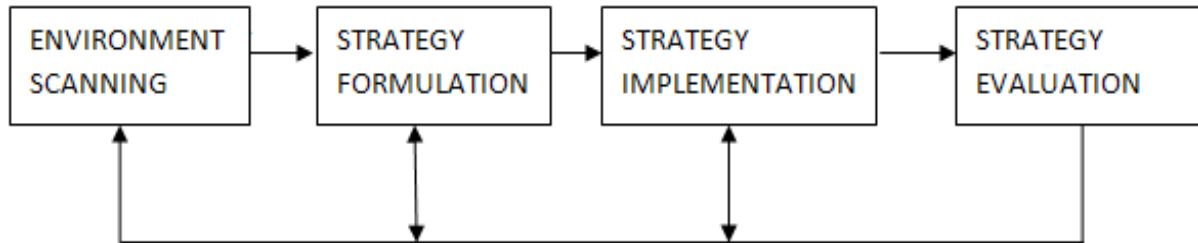
Although formal strategic planning processes used when developing strategies, Wheelan et al. (2018) considered that the process could be summarized in a non-formal way as three questions:

1. Where is the organization now?

2. If no significant changes are made, where will the organization be in 1/3/5/10 years?
3. If the answers to previous questions are not acceptable, what should be the specific actions to undertake by management? What are the risks and payoffs of such actions?

A formal strategic management process can be organized in 4 steps.

Figure 4 – Strategic management steps



Source: Wheelan et al. (2018)

The authors also identified the following processes and sub-processes:

1. Environmental scanning:
 - Internal environment scanning;
 - External environment scanning.
2. Strategy formulation (strategic wise and long-range planning):
 - Mission;
 - Objectives;
 - Strategies;
 - Policies.
3. Implementation of strategies:
 - Programs;
 - Budgets;
 - Procedures.
4. Evaluation and control:
 - Performance evaluation;
 - Control and adapt.

3. METHODOLOGY

The proposed methodology was selected as organized in Figure 5 from the base of “Research Onion” (Saunders, Lewis, & Thornhill, 2009).

Figure 5 – Methodological sequence

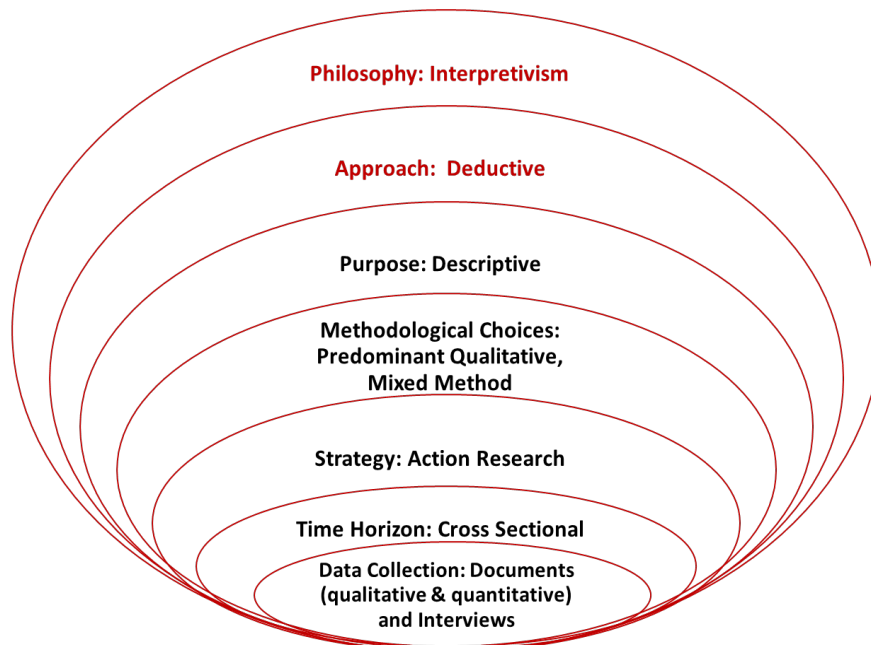


Figure 5: Saunders et al, 2009, p.108

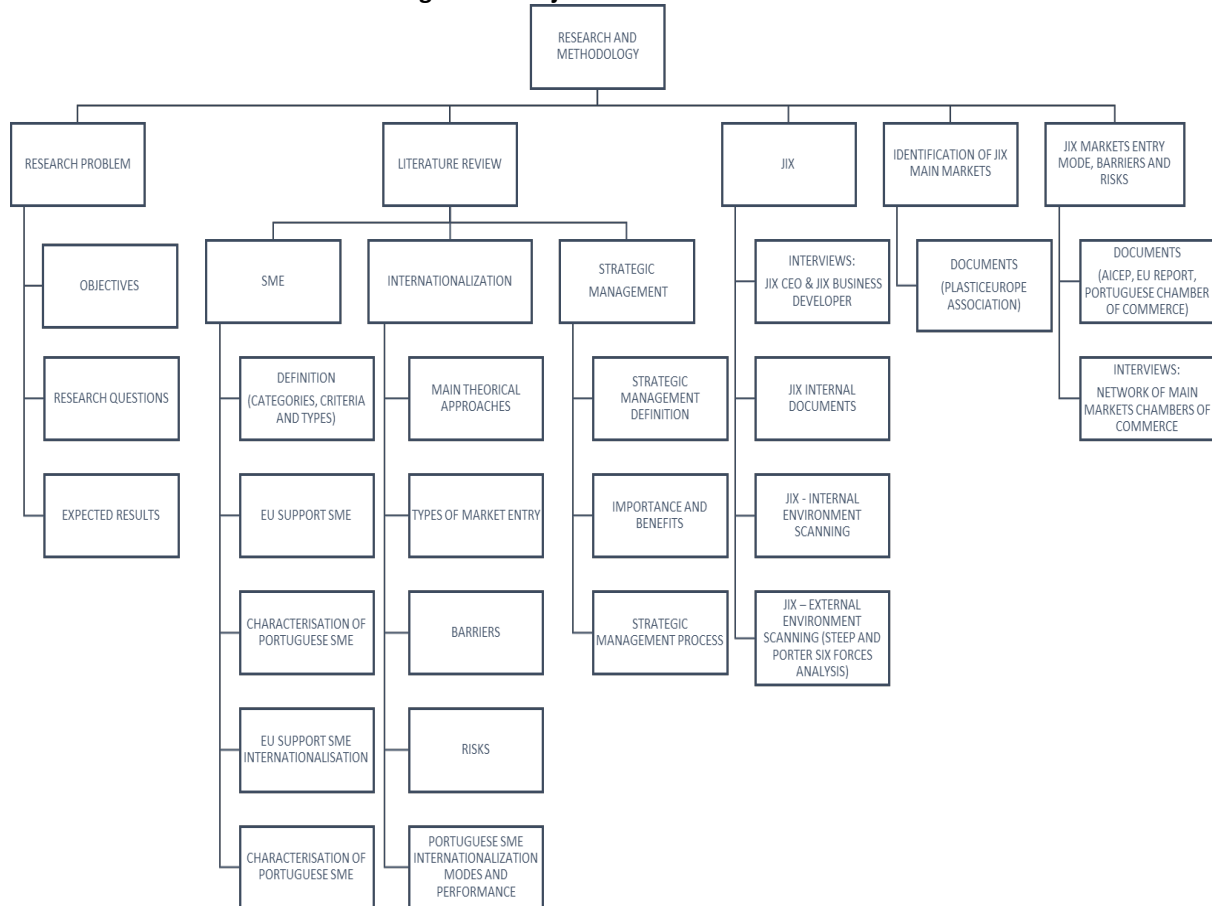
Source: Adapted from Saunders et al. (2009, p.108).

The project will be a qualitative study through a deductive approach analyzing the main reasons for the choice of the internationalization of this SME and the importance of internationalization for the development of the company. Along with the study, it is intended to answer the questions highlighted in the research problem and to outline the best solutions and strategy to develop a process of sustainable internationalization for the company in order to respond to the objectives proposed in this project. The strategy of study is action research according to which the researcher is not only an observer who collects and analyses data but also an active participant in the whole process that is the subject of the study (Simons, 2000, p. 148): *“This method directly involves the researcher in the organizational change effort while placing organization members in close collaboration with the researcher”*. Action Research strategy will enable the objectives of this study of evaluating, diagnosing, planning and taking action towards JIX goals.

3.1. Research framework

In order to answer the research questions, it was necessary to carry out extensive research and analyze data at the external market level and to evaluate the capacity and competencies of the internal structure of the company itself. Through the literature review made, will be proposed the internationalization model most appropriate for the internationalization process in context with JIX resources.

Figure 6 – Project research framework



3.2. Data collection

Yin (2009) discusses that the action research methodology is increasingly present in projects and studies developed by making it feasible to investigate its development, implementation, and use in organizations. According to this author, the methods that can be applied depend on three conditions: i) the questions to be answered; ii) the investigator's control over the events, and iii) the importance of historical or contemporary events. The following chart demonstrates how these three conditions determine how the five primary research methods can be applied:

Figure 7 – Relevant situation for different research methods

Method	Research Questions	Control over events?	Focus on historical events?
Experimentalism	<i>How, why?</i>	Yes	Yes
Questionnaire	<i>Who, What, Where, How?</i> <i>Many, How Much?</i>	No	Yes
Document Analysis	<i>Who, What, Where, How?</i> <i>Many, How Much?</i>	No	Yes/No
Historical Data Analysis	<i>How, why?</i>	No	No
Case Study	<i>How, why?</i>	No	Yes

Source: Yin (2009).

The accuracy of the information collected is ensured through the use of various sources of information and their triangulation. In this sense, the sources of evidence and research methods used were:

- Chapter 4) JIX - Internal environment scanning:
 - Company's document analysis, semi-structured interviews with JIX's CEO and Business Developer;
- Chapter 5) JIX external environment scanning:
 - A case study based on STEEP analysis and Michael Porter six forces;
- Chapter 6 - Identification of JIX Markets:
 - Historical data analysis and document analysis;
- Chapter 7 - JIX Market targets Entry, Barriers, and Risks:
 - The data will be collected through semi-structured interviews from Chambers of commerce of each JIX main market target identified due to their long-time acquired experience and perception in what is the best entry mode to access to those markets, its barriers and risks.

4. JIX - INTERNAL ENVIRONMENT SCANNING

By following the strategic management steps model (see Figure 4) permits through internal environment scanning, the understanding of the current planning of JIX and assessing its resources (Wheelan et al., 2018). This chapter was constructed through the resume of data collected and authorized (due to confidentiality purposes, there are data restrictions regarding internal JIX data that influenced the internal environment scanning) from JIX internal document analysis and two semi-structured interviews with JIX CEO and JIX Business Developer.

4.1. History

JIX was founded in December 2016, as a Portuguese plastic injection machine manufacturer in the Industrial sector, producing and marketing a disruptive and innovative technology, the 1st clamping force booster in the world (worldwide patent awarded). JIX aims to develop worldwide sales through internationalization in main markets through its innovative technology with numerous benefits. JIX is a pioneer technological innovation designed in France and 100% manufactured in Portugal, appropriate to improve the production of products or components in various industrial areas such as household, packaging, automobile, aircraft, construction, and electronics.

4.2. Vision and Mission

According to the company profile statement, JIX Vision is

“JIX will transform the Plastic injection industry”.

JIX Mission is:

“To solve all technical and economic challenges of plastic injection industry, resolving the lack of power of existing plastic injection machines performing as production capacity upgrader and simultaneously providing money saver”.

4.3. Product

JIX product is a mechanic-hydraulic system that is an auxiliary equipment that increases the capacity of existing plastic Injection molding machines up to 60%. With five years of production validation, the product currently does not have any competitor product known. JIX product allows customers the increase the production range capacity and the quality of the final product with existing equipment, this capacity multiplication is possible because JIX

product is a modular and interchangeable product standardized with four models (50, 100, 250 and 400 tons of power increase). Also, this technology offers economic benefits with significant savings with a short-term ROI and payback between 6 to 12 months.

4.4. Location

Portugal was chosen as the company location due to the local logistics platforms available with the location of the headquarters in Lisbon and the industrial plant located in Setubal area.

4.5. Business model & Intellectual property

The business model is based on exclusive production (Batch type) in Portugal and direct export with worldwide sales to countries with JIX patent in 18 countries (USA, Germany, Italy, France, Spain Portugal, Austria, Belgium, Netherlands Luxembourg, United Kingdom, Poland, Switzerland, Canada, Mexico, Turkey, Tunisia and China). From order to door delivery in a maximum of 14 weeks of lead time (JIX CEO, 2019).

4.6. Objectives and budget

JIX objective is to achieve revenues 5 Million € per year, in 4 years, with 100% of sales from the foreign market and covering 50% of the worldwide market. To achieve the proposed goals, the available JIX budget to develop its international expansion objectives in next two years is 300.000,00€ per year, a total of 600.000,00€ (JIX CEO, 2019).

4.7. Marketing and promotion

JIX current marketing and promotion actions had been developed initially by digital marketing campaigns, using the website, social media, email campaigns and online presentations. The next step has been to invite and to perform a live product demonstration (currently in plastic technical center in France) simulating the technology in a production environment. This plan was selected due to low-cost actions, awareness triggering and high dissemination of unknown technology and brand (JIX Business Developer, 2019).

5. JIX - EXTERNAL ENVIRONMENT SCANNING

The strategic management step of external environment scanning (Wheelan et al., 2018) has the purpose of analyzing and comprehend the opportunities and threats awaiting the organization and enable the organization to formulate a strategy.

5.1. Societal environment analysis

All organizations are affected by five major environmental forces, that do not directly affect the organizations but have indirect effects in the long-run. These are the main aspects that affect and influence JIX identified through environmental scanning (STEEP analysis).

Figure 8 – JIX STEEP analysis

S Sociocultural	T Technological	E Economical	E Ecological	P Political-Legal
<ul style="list-style-type: none"> • Location and multicultural businesses. 	<ul style="list-style-type: none"> • New technologies • New raw materials. • Emerge of substitute industries. 	<ul style="list-style-type: none"> • USA and China Trade war. • Consumption patterns. • Export limitations. • Brexit. 	<ul style="list-style-type: none"> • Plastic pollution. • BIO industry. 	<ul style="list-style-type: none"> • Intellectual property (patent) protection. • Industry Shifts.

Source: Adapted from Wheelan et al. (2018).

5.1.1. Sociocultural

- Location and multicultural businesses: with forecast of 100% revenues from foreign markets, it is essential to JIX a sociocultural adaptation to different approaches according to the culture of the several countries and customer locations and also adequate the messages to the different types of targets in the same company like decision-makers and technicians (JIX Business Developer, 2019).

5.1.2. Technological

- New technologies: although JIX offers a new technology, plastic machinery industry investments in R&D are high and can present at any moment alternative technologies with an impact on JIX revenues (JIX CEO, 2019).
- New raw materials: raw material represents 50 to 75% of the cost of plastic products (Bolur, 2019), and the main research trend in the plastic industry concerns cheaper and renewable raw materials. It is expected that these raw materials, due to high viscosity, will become challenging to traditional injection plastic machinery and will create more opportunities for JIX technology (JIX CEO, 2019).

- Emerge of substitute industries: The increasing concern about diminishing fossil resources and the impacts of global warming is driving the growth of the new bioeconomy. Bioplastics, thermoplastic biopolymers that are either biodegradable or at least partly bio-based, are one of the fastest-growing markets. The average growth rates over the past years have been continuously double-digit (Storz & Vorlop, 2014).

5.1.3. Economic

- USA-China trade war: USA-China trade conflict has affected markets well beyond trade; conflict creates uncertainty, which weighs on confidence in the future and, hence, investment (Plummer, May/June 2019). Affecting investment certainly will affect JIX Sales in the USA and China.
- Also, this trade war is causing manufacturers to move supply chains and shift production to countries outside of China, to avoid US tariffs (Zhou & Bermingham, 2019).
- Consumption patterns. High-income countries tend to generate more plastic consumption per person (Ritchie & Roser, 2018).
- Export limitations: Many of the trade problems which European exporters face are not just the traditional import tariffs or quotas but discriminatory or disproportionate regulations or standards (European Union Parliament, 2007).
- Brexit: the UK's permanence in the European Union has surprised the markets and the economic implications of the exit, although not consensual among analysts, can be adverse, increasing uncertainty and adversely affecting investment and JIX Sales in Europe.

5.1.4. Ecological

- Plastic pollution: Nowadays, plastic pollution is having a negative impact on our oceans and wildlife health and is perceived as the leading cause of pollution (Ritchie & Roser, 2018).
- Bioplastic industry: due to negative plastic awareness linked to pollution, the market invites alternative products (biodegradable and made of renewable resources).

5.1.5. Political-Legal

- Intellectual Property: Although International Property Rights protect a company's intellectual property and industrial machinery is heavily licensed, international intellectual property laws are complex and decentralized, and patent infringement laws are continually changing, especially in Asia (Cremers, et al., 2016).

- Industry Shifts: as a consequence of trade war, Chinese based corporations are shifting production to Southeast Asian countries like Laos, Vietnam or Cambodia (News24, 2019).

5.2. Task environmental analysis

Task environment are the forces that directly affect the organization in the industry environment in which the organization operates. Inspired in Michael Porter's six forces, were identified the following significant factors of JIX industry:

1. Threat of new entrants: High

- Despite being a patented technology, patent infringement laws are always possible and take a long term to be settled (Cremers, et al., 2016);
- The traditional injection machine manufacturers can considerer JIX as a direct competitor and challenge the current technology with an alternative product (JIX Business Developer, 2019).

2. Bargaining power of Buyers: High

- Plastic manufacturers want to buy the best offerings available by paying the minimum price as possible with a highly skillful of procurement and negotiation techniques (JIX CEO, 2019).

3. Threat of substitute products and services: Moderate

- The emerge of the substitute eco-conscious industry like wood, glass, ceramic, paper, bamboo, palm leaves or corn starch (Gibbens, 2018).

4. Bargaining power of suppliers: Low

- There is no significant power of suppliers due to a high number of SME players in Europe and specifically in Portugal for the supply of JIX components (JIX CEO, 2019).

5. Rivalry among competing firms: Low

- No direct competitor with JIX product (JIX Business Developer, 2019).

6. Relative power of unions, government or special interest groups: Low

- The plastic industry is a well-established activity with regulatory issues being relatively stable (OECD - OECD for the G7 Environment, Energy and Oceans Ministers, 2018).

6. IDENTIFICATION OF JIX MARKETS

This chapter will enable the identification of JIX worldwide main markets by delimitating the main plastic production regions and identifying the main country markets in worldwide production. PlasticsEurope (European Association of Plastics Manufacturers) in the Market Research and Statistics Group (PEMRG) provides yearly input on the production and the demand for plastic raw materials. JIX product targets the markets of plastic converters or product manufacturers.

6.1. Global market size

The plastics market is a dynamic market that continues to grow globally, as evidenced by the following chart showing the global production of plastic raw materials.

Figure 9 – Distribution of global plastic materials products

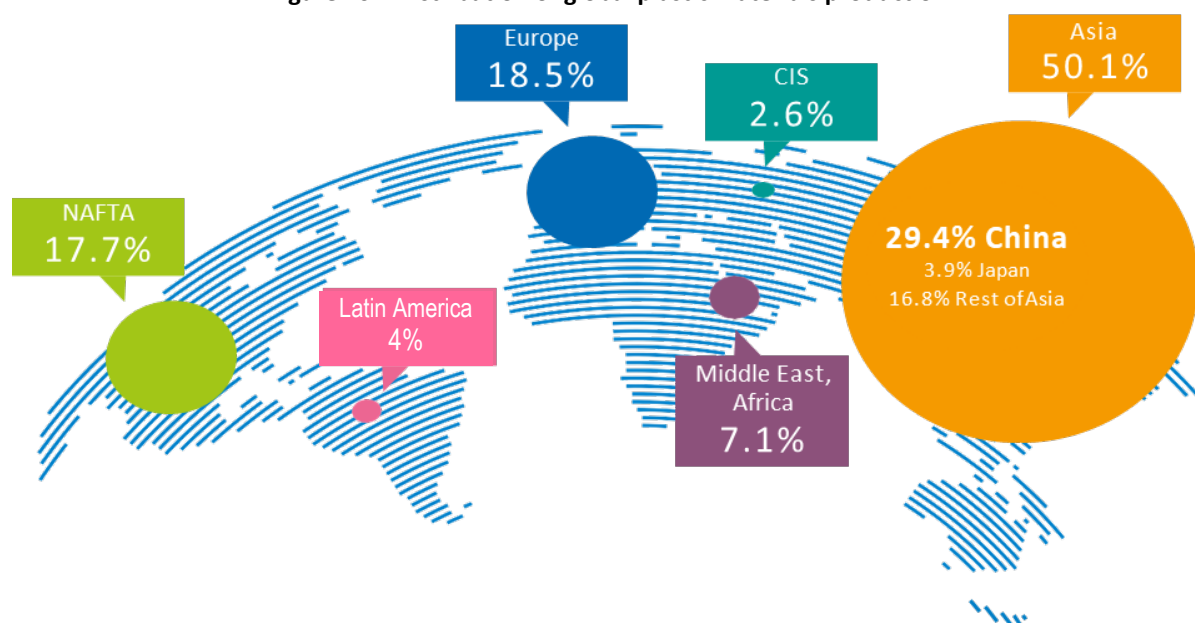


Source: PlasticsEurope Deutschland e.V. (2018).

6.2. Market size per region and countries

In 2018, PlasticsEurope stated that the plastic converter's potential market covers all countries in Europe, America, and Asia. The plastics market is a dynamic market that continues to grow globally. The 2017 market was estimated at around 348 million tons. In terms of the global distribution of plastics production, China is the largest producer of plastic materials (29%), followed by Europe (19%) and North America with about (18%). Asia (China, Japan and rest of Asia) accumulate about 50% of plastic world production.

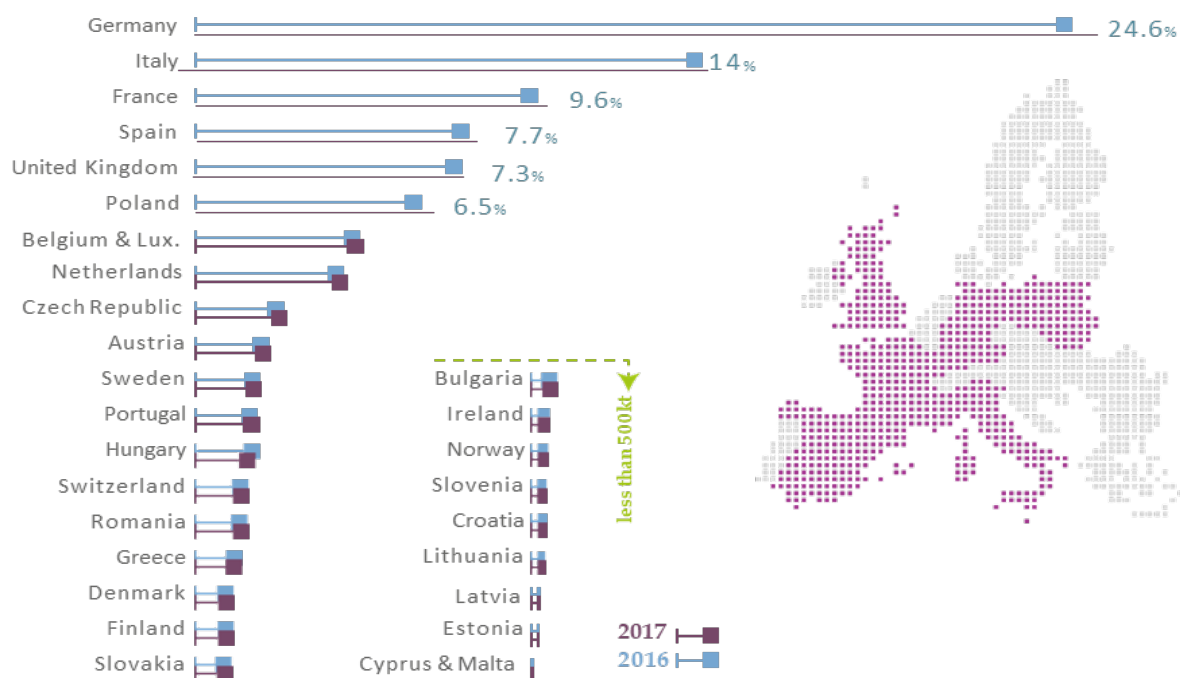
Figure 10 – Distribution of global plastic materials production



Source: PlasticsEurope Deutschland e.V. (2018).

The total European converter demand for plastic amounted 51.2 million tones, and three European countries (Germany, Italy, and France) cover almost 50% of the European JIX market in 2017.

Figure 11 - Distribution of European plastic demand



Source: PlasticsEurope Deutschland e.V. (2018).

7. JIX MAIN MARKETS ENTRY, BARRIERS, AND RISKS

After identifying the main markets in the previous chapter, the bundle that fulfilled the JIX requirement of coverage of 50% of the worldwide market are: Germany, Italy, France, China, and USA. In order to understand and to have access to the data about these markets concerning best market entry, main barriers and risks for and to JIX in each market, five semi-structured interviews were done (Appendix 1), to each of the network of Portuguese Chambers of Commerce that have accumulated internationalization experience for several decades supporting Portuguese Enterprises.

7.1. Analysis of Interviews to main markets Chambers of commerce

After initial JIX presentation to all chamber of commerce, interviews were conducted to collect data, to prepare and create an internationalization plan for JIX to enter in those markets, the best entry mode, barriers, risks and suitable promotion actions in each market. The result of the questions 1 and 2, clearly show that the chambers of commerce unanimously consider that the mere JIX exportation is not enough to be able to enter the in these markets and that is extremely important to acquire previous knowledge of the market, customers, competition, and compliance with business and legal practices.

Despite the differences between markets, the chambers of commerce considered that the best strategy is to operate locally, and the best entry mode in these markets is to establish an agreement or partnership with a local independent representative, agent or distributors sales representative to market, promote and sell JIX products. Besides, the US chamber of commerce went further and recommended the establishment of a brand, production and sales subsidiary as the most suitable entry mode in US market due to market requirements of full chain process and business culture.

Regarding question 3, answers globally indicated that all chambers of commerce considered the following market barriers: language, business culture and market competitiveness. Stands out as ranked in the first position, in Germany the difficulty of foreign companies in obtaining representation, in China the lack or insufficient intellectual property protection and in the USA the highly competitive market environment. The non-European Union chambers of commerce also referred to the legal and import\export tariffs as considerable barriers.

Regarding market risks (question 4), European markets present economic risks such as conservative investment, insufficient focus on innovation (like JIX technology) and low

administrative efficiency. For the non-European Union chambers of commerce, the market risks indicated are currency exchange fluctuations, tariffs legislation and USA-China trade war. Also, the Chinese chamber of commerce highlighted that due to trade war, current Chinese companies and their production centers are shifting to Asian neighbor countries.

Concerning the recommended marketing and promotion actions by chambers of commerce (question 5) were generally the presence in industrial fairs and conferences, events promoted by the chambers of commerce and demonstrations in technical centers or at customer facilities.

Question 6 focused on the services that chambers of commerce provide to their members and could be made available to JIX. German, French, Italian, Chinese and USA chamber of commerce are available to provide services to support SMEs like JIX in the prospection of clients and prospection of independent representatives and arrange the adequate actions to compliment the prospection action like trips and meetings.

8. RECOMMENDATIONS: JIX INTERNATIONALIZATION PLAN

By following the strategic management steps model, the previous chapters (chapter 4 to chapter 8) deal with the environment scanning (internal and external) – step 1. This chapter was dedicated to strategy formulation (step 2), implementation (step 3) and evaluation (step4). The primary purpose will be a set of recommendations regarding the internationalization plan to JIX board of directors, in order to support and achieve JIX objectives.

8.1. JIX internationalization strategy formulation

8.1.1. JIX internationalization objectives

The main objective of JIX is to achieve revenues of 5 Million € per year, within four years, with 100% of sales from the foreign market and covering 50% of the worldwide market.

The recommended JIX internationalization plan targets the following objectives: investment equal or inferior to JIX available budget (600.00,00€), application to Portugal 2020 internationalization incentive program, knowledge of main market targets, export via independent sales representatives through local partners in international main JIX markets, Germany, France, Italy and China and sales subsidiary established in USA, international brand

development and promotion, spread B2B customers prospection, expand web presence through the digital marketing and patents strengthening for Asian market targets.

8.1.2. JIX internationalization strategy

JIX internationalization strategy will be defined by the consequent strategies:

1. **Focus on Main Market Targets:** concentrate JIX resources on entering in the markets that could offer more revenues. JIX board requested covering 50% of the worldwide market and, in chapter 7 were identified Germany, Italy, France, China, and USA.

These markets will play a significant part in expansion, as references to other proximity and surrounding customers.

The following table III will expose the strategy for each of the main markets selected.

Table II – Strategy for main market targets

Market	Entry mode	Product Patent	Legal	Marketing	Production	After Market Client Support	After Market Technical Support
Germany	Export via independent sales representatives	Yes	HQ in Portugal	Digital Marketing Fairs, Prospection, Technical demonstration	Production in Portugal	Sales representative	JIX (training, online support and in-site support)
France	Export via independent sales representatives	Yes	HQ in Portugal	Digital Marketing Fairs, Prospection, Technical demonstration	Production in Portugal	Sales representative	JIX (training, online support and in-site support)
Italy	Export via independent sales representatives	Yes	HQ in Portugal	Digital Marketing Fairs, Prospection, Technical demonstration	Production in Portugal	Sales representative	JIX (training, online support and in-site support)
China	Export via independent sales representatives	Yes, (Neighbor countries no).	HQ in Portugal	Digital Marketing Fairs, Prospection, Technical demonstration	Production in Portugal	Sales representative	JIX (training, online support and in-site support)
USA	Subsidiary partnership with local partner	Yes	Subsidiary in the USA	Digital Marketing Fairs, Prospection, Technical demonstration	Production in the USA	JIX USA	JIX USA

2. **Establish sales agreements with independent representatives in Germany, France, Italy and China markets:** As highlighted recommendations of Chamber of commerce, during interviews, the best entry mode for Portuguese SMEs in these markets is to establish a sales agreement with companies or individuals to pursue activities as independent representatives. These companies can promote, prospect and perform sale for JIX, being legally independent, receiving a fee (usually a percentage of the invoiced amount) and not being a fixed cost to JIX, but a variable cost linked to their sales performance. Although, the contacted Chambers of Commerce of main markets provide the service of supporting JIX in the prospection and recruitment of independent sales partners, in addition (Appendix 2), are listed 51 potential independent sales representatives from JIX main markets, using the criteria of only including independent sales representative of current companies with same target customers of JIX.
3. **Establish a JIX subsidiary in the USA:** USA market requires an established company with sales, production and after-sales support available locally. The recommendation is to create a JIX subsidiary in a joint venture by developing a business partnership with a local partner.
4. **Prospection and Roadshows:** This strategy will offer a low-cost prospection to JIX. Following the JIX sales representative's strategy, the prospection of customers will be conducted by sales representatives with the supervision of JIX HQ, and regular roadshows will be attended together by JIX HQ and sales representatives with previously selected potential customers.
5. **Partnership for demonstrations technical center:** This strategy is paramount for customer acquisition. Since the JIX product is a new technology, it is highly recommended to JIX that potential customers be able to see how the product works, and thus to see in production environment the economic and technical advantages of the product. Currently, JIX has one technical demonstration center in Europe (France) with a fixed fee for each demonstration. Lacking this demonstration action in Chinese and USA market, the recommendation is to create two technical centers for demonstration, in similar economic and legal conditions as the current one in France.

6. Promotion actions:

1) Digital marketing: aiming to boost sales in international markets by making known this new technology while maintaining awareness with at low cost. This strategy will allow a consistent and regular communication of JIX products and promoting future sales representatives throughout the internationalization process of the company and in the main market targets.

2) Fairs: Despite a considerable number of fairs, only major fairs were selected due to high awareness and attendance (K2019 - Germany, Fakuma 2020 - Germany, Chinaplast 2020 and 2021 – China and NPE 2021 – USA).

3) Specialized press releases: specialized agency to promote JIX in a targeted audience of plastic media.

7. Patents strengthening in Asia: JIX board revealed high concerns about intellectual property risks in Chinese market and taking into consideration the recommendation of Chinese Chamber of commerce, its recommendable to patent JIX in surrounding (Vietnam, Laos and Cambodia) countries of China or other production centers where Chinese producers can shift production (Thailand, Indonesia, Malaysia and Korea). This will enable JIX to open to the largest plastic market, Asia.

8. Portugal 2020 incentive application: fulfilling all required criteria for PT2020 (foreseen in chapter 2.1.6.), with the submission of application, JIX can be awarded with 40% of the non-repayable to eligible expenditure from incentives program for SMEs internationalization of Lisbon area:

- Program: Lisbon Regional Operational Program;
- Objective: Strengthen the competitiveness of SMEs;
- Investment priority: The development and application of new business models for SMEs, especially as regards internationalization;
- Type of intervention: SMEs Internationalization;
- Fund: FEDER

8.2. JIX internationalization implementation plan

JIX internationalization strategy implementation program plan (detailed program in Appendix 2) has duration of 24 months starting from October of 2019 until October 2021 with 124 actions, organized in seven axes: 1) Digital marketing, 2) Press releases, 3) Prospect, recruitment and support of independent sales representatives, 4) Prospection visits, roadshows and demonstration in-site to customers, 5) Demonstration technical centers, 6) Fairs and conferences, and 7) Patent application in Asian countries (Vietnam, Laos, Cambodia, Malaysia, Indonesia and Korea).

JIX internationalization strategy program budget (detailed budget in Appendix 3) has a total of 600.000,00€ in compliance with JIX budget limit requirement (JIX CEO, 2019), with a possibility of 240.000,00€ deduction with a successful application to PT2020 Program. In this case, the total budget of JIX internationalization plan implementation will be 360.000,00€.

8.3. JIX internationalization plan evaluation and control

Strategy evaluation is the final step of the strategy management process and is defined as the process of determining the effectiveness of a given strategy in achieving the organizational objectives and taking corrective action wherever required. The participants should be JIX's board of directors, middle-level managers and financial controllers.

The recommended techniques for performance evaluation should be STEEP Analysis (chapter 5.1.) Porter six forces Analysis (chapter 5.2) and GAP Analysis (performance analysis).

The recommended JIX strategic control is operationalized by controlling a series of steps, activities, investments and acts that occur over a period. Using milestone reviews, a regular milestone review usually involves a full-scale reassessment of the strategy and the advisability of maintaining or adapting the direction of the company:

1. JIX Budget control;
2. JIX Program actions schedule;
3. JIX objectives per action (Example: number of independent sales representatives, number of customers prospected, sales key indicators per market).

9. CONCLUSIONS

As noted in the literature review, SMEs are the pillars of the development and growth of the European economy. For these firms, exploring new business opportunities in foreign markets is increasingly mandatory and will improve the financial situation of the enterprises. The benefits associated with exports are not restricted to the company that chooses to internationalize. Countries also benefit from the operations of domestic companies abroad, since, from a long-term perspective, these activities will promote socio-economic development, increase employment opportunities and productivity of domestic industries. Even so, for an SME with insufficient knowledge of the target market and limited resources, whether financial, logistics or marketing management, internationalization is a high risk.

This thesis tries to identify the main concepts, models and processes that the manager of a SME like JIX must take into account for the success of the internationalization process. In the case of JIX, which had already started some export activity, mainly in the French market, the Board of Director's intents to diversify foreign markets in order to increase the weight of exports in turnover. With this purpose, JIX internal and external environment analysis was essential to identify enterprise resources and if there are business opportunities in foreign markets. Before the JIX internationalization strategy and plan definition, JIX main markets (Germany, France, Italy, China and USA) were identified, and the long-experienced chambers of commerce recommended partnering with another company or individuals as the solution to overcome market entry difficulties.

JIX's Board of Directors should look at the best type of partnership and partner as well as protecting their products or technology (intellectual property). To support JIX in the internationalization process, it was examined the conditions and characteristics of each market, as well as the mode of entry, barriers and risks for each market. A two-year internationalization action plan was designed according to JIX international expansion objectives and budget, JIX internal and external environment analysis and main markets identification and analysis. The elaboration of a roadmap for internationalization, namely by performing prospection and participation in international fairs, will make it possible to establish contacts with local or internationalized companies in order to create partnerships and to facilitate entry into these markets. The development of international marketing will assure JIX awareness to potential customers, as well as through digital marketing, roadshows and product demonstrations to maintain a close relationship with the company's current customers by promoting new products and services available.

The internationalization of SMEs is a continuous process that requires considerable investment, whether in time, dedication, human and financial resources.

As fundamental for the development of this thesis and for the realization of the internationalization plan, the interviews conducted to the Chambers of Commerce of the main markets can be considered with extreme importance. These interviews allowed the collection of important and cirurgical information about each main market that allows this SME and, can be replicated to other SMEs in order to better anticipate and prepare SMEs for their new markets. Chambers of Commerce are in daily and permanent environment of supporting and provide guidance to SMEs in new markets and certainly their experience and continuos update of the markets makes the Chambers of Commerce the best SMEs partners in their internationalization needs of support and guidance. Mainly in how to approach new markets, what is the best entry mode and the adequate pratices and how to do in each market, in order help SMEs to achieve successful results.

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APPENDIX 1 – INTERVIEWS TO MAIN MARKETS

CHAMBERS OF COMMERCE

Interviews to Portuguese chambers of commerce of Germany, France, Italy, China and USA

Name of entity	German Chamber of Commerce	French Chamber of Commerce	Italian Chamber of Commerce	Chinese Chamber of Commerce	USA Chamber of Commerce
Internationalisation experience, supporting Portuguese Enterprises	Since 1954	Since 1887	Since 1916	Since 1978	Since 1954
Name of interviewed	Ms. Rosária Carvalho	Ms. Clementina Felix	Mr. Marcello Menichetti	Mr. Vitor Costa	Ms. Graça Didier
Position of interviewed	Associates Manager	Sales Responsible	Managing Director	China Market Expert	General Secretary
Interview duration	60 Minutes	60 Minutes	30 Minutes	45 Minutes	60 Minutes
JIX Presentation (objectives and current strategy)	Yes	Yes	Yes	Yes	Yes
Q1: For new companies how is the market access?	<ul style="list-style-type: none"> It's very hard to enter in German market, persistence and patience are mandatory. Germans companies don't accept easily other countries innovations. German companies, usually aren't reactive to suppliers because they have broad German options and also because they plan and forecast their purchasing actions in long term 	<ul style="list-style-type: none"> The start is hard for non-French companies Medium-Long term strategy French market require French tongue communication. In France the B2B market leaders are followed by the remaining competitors. Recommended that JIX use the JIX "100% French design" as slogan. 	<ul style="list-style-type: none"> Italian market require local presence. Very competitive B2B market with focus in low price. Italian market require Italian tongue communication. JIX market is focused in northern region of Italy, particularly developed, with the industrial "triangle" between Genoa, Milan and Turin. Prospection in 	<ul style="list-style-type: none"> Chineses market require mandarin tongue communication. To succeed it requires the need to ensure a credible form of payment, insurance of goods and their transportation. Major companies respect the protection of intellectual property. 	<ul style="list-style-type: none"> Its mandatory to know the market, competition, and compliance with business and legal practices Initial contact with the American entrepreneur, if not on his own initiative, is a very slow and difficult process. "Time is money" is taken literally. Executives are used to making quick decisions and prefer objective and clear information. "Money" is the top priority in business. The American businessman is

	<p>periods.</p> <ul style="list-style-type: none"> • Some cases take 5 years of relationship and quoting to achieve sales. • Key action to succeed is to identify correctly the German target companies. 		<p>Italy is face to face, door to door.</p>		<p>objective and persistent, and takes any risk to get the most advantageous business for his company.</p>
Q2: Best entry mode? (Direct sale is the JIX current strategy)	<ul style="list-style-type: none"> • Direct sale is extremely hard for new/unknown companies, foreign companies\brands and innovative products. Direct sale delays or could even block sales in Germany. • As alternative they recommend as the best market option to have a local agent. • Usual agent commission is 5-7%. (Depends of the negotiation with agent) 	<ul style="list-style-type: none"> • Direct sale is possible but need permanent local contact like agent, sales partner or distributor • Recommendation: Several sales partner according to region (or departments) • Usual agent commission is 5-12%. (Depends of the negotiation with agent) 	<ul style="list-style-type: none"> • Direct sale from Portugal will not achieve results, especially in Industrial environment. Its recommended to spread local agent, sales partner or distributor. 	<ul style="list-style-type: none"> • Direct sale from Europe it's not enough to enter in Chinese market. • Without local sales no business will succeed. • The best way to enter in Chinese market is to have a Chinese agent or distributor. 	<ul style="list-style-type: none"> • Direct sale from Europe it will not succeed in USA market • The best strategy is to engage people in the local market to manage your business there • USA market require local USA company and local production. • Without local and permanent after sales support no business will succeed.
Q3: Market Barriers?	<ul style="list-style-type: none"> • Language. • Difficulty in obtaining representation abroad. • Business culture. • Industrial and engineering market (JIX market) with high level of 	<ul style="list-style-type: none"> • Market competition is very high • Business culture. • Market require products specifications with high standards of quality control. 	<ul style="list-style-type: none"> • Bureaucracy and legislative complexity. • Market competition is very high. • Product price. 	<ul style="list-style-type: none"> • Lack or insufficient Intellectual property protection. • High cost of internationalisation. • Language. • Cultural differences. • Lack of sufficient information for the market 	<ul style="list-style-type: none"> • Market competition is very high • High cost of internationalisation. • Exporting to the US involves considerable regulation that legislates, restricts or prohibits the

	<p>competition.</p> <ul style="list-style-type: none"> • Market with high standards of product quality. • Hard to contact prospective clients 			<p>location/analysis.</p> <ul style="list-style-type: none"> • Difficulty in obtaining reliable representation abroad • Tariff barriers or other trade barriers • Different laws and regulations. 	<p>entry of products, goods or services there.</p> <ul style="list-style-type: none"> • Legal: USA is the most contentious and regulated society in the world.
Q4: Market Risks?	<ul style="list-style-type: none"> • Economic risk: competitors and their strategies; Market size and growth rate. 	<ul style="list-style-type: none"> • Economic risk: High level of savings; weakening level of product sophistication; insufficient focus on innovation 	<ul style="list-style-type: none"> • Political risk: Fragmented political landscape; Regional disparities • Economic risk: Low administrative efficiency 	<ul style="list-style-type: none"> • Currency risk • Political risk: strict legislation, due to trade war companies and production are shifting to Asian neighbor countries like Vietnam or Laos. • Economic risk: conjuncture and evolution prospects; Tax legislation, labor practices, wage levels and human resources supply. 	<ul style="list-style-type: none"> • Currency risk: exchange fluctuations. • Political risks: tariffs legislation and trade USA-China war. • Economic risks: Market size, maturity and prospects; • Market size requires local information research and validation.
Q5: Best promotion and marketing action?	<ul style="list-style-type: none"> • Fairs, exhibitions and conferences 	<ul style="list-style-type: none"> • Events like fairs, road shows, demos and conferences are mandatory. 	<ul style="list-style-type: none"> • Milan plastic fair, demonstrations in site, Italian chamber of commerce events 	<ul style="list-style-type: none"> • Plastic fairs, demonstrations in site, Chinese chamber of commerce event in China. 	<ul style="list-style-type: none"> • Company presentation and regular visits, Plastic fairs. Femonstration technical center is mandatory and Roadshows.
Q5: Provide service of prospection?	<ul style="list-style-type: none"> • Yes, for prospects we can prospect and schedule meetings with selected prospects. For sales partners we can advertise JIX in several German 	<ul style="list-style-type: none"> • Yes, for prospects and sales partners we can provide service of prospection. 	<ul style="list-style-type: none"> • Yes, for prospects and sales partners we can provide service of prospection. 	<ul style="list-style-type: none"> • Yes, for prospects we can provide service of prospection. For agents or distributors we can support you by preparing a trip tour with meetings. 	<ul style="list-style-type: none"> • Yes, for prospects and agents we can support you by preparing a trip tour with meetings. We prepare regularly this kind of trips per group or groups or per company.

	<i>chambers of commerce.</i>				
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Source: Own elaboration based on presential interviews (2019).

APPENDIX 2 – INDEPENDENT REPRESENTATIVES SALES

JIX Potential Independent Representatives List			
Country	City	Company	Website
China	Shenzhen	SHENZHEN KYLIN COMMERCE	-
China	Qingdao	QINGK-DAO ATEC	-
China	Wuxi	MEUSBURGER MOULD AND DIE	www.meusburger.cn
China	Dongguan	DONGGUAN SUMIDA AUTOMATION	www.smd-automation.com
China	Tianjin	THINKMETAL AUTOMATION TECHNOLOGY	www.thinkmetal.com.cn
China	Shanghai	SHANGHAI PUYA AUTOMATION TECHNOLOGY	-
China	Jiangsu	PANAMECH SYSTEM	www.panamech.com.cn
China	Xuhui District	YAMAZEN TRADING	www.yamazen.com.cn
China	Jiangsu	HAMASHO CORPORATION	www.hamasho.com.cn
France	Montauville	SOREPCO	-
France	Belleydoux	LUCIEN MAIRE	-
France	Herblay	SOUFFLET SARL	www.soufflet-sarl.fr
France	Marcq en Baroeul	LOBRY	-
France	Faverolles et Coëmy	INTERFACE	-
France	Couzon au Mont d'Or	B2B FRANCE	www.b2bfrance.fr
France	Bondoufle	ENOMAX	www.supratec-enomax.com
France	Bondoufle	ENOMAX	www.supratec-enomax.com
France	Merignac	ROBSYTECH	www.robsytech.fr
France	Somloire	PLASTIRÉAL	www.plastireal.fr
France	Grand Est	EXTRU PRO	-
France	Auvergne-Rhône-Alpes	EUROMAPLAST	www.euomaplast.com
Germany	Essen	ANDREAS BEXTE KUNSTSTOFF-TECHNIK	www.Kunststoff-BKT.de
Germany	Waldbronn	INGENIEURBÜRO WOLFGANG REICH	-
Germany	Trendelburg	HEGO POLYFORM	www.hego-polyform.de
Germany	Ettlingen	TRM SYSTEC	www.trmsystec.de
Germany	Zweibrücken	BERATUNG & VERTRIEB FRANK SCHUBA	-
Germany	Eschweiler	REZA ZADEH	www.rezazadeh.de
Germany	Blankenloch	TRISTAR	www.tristar-technik.de
Italy	Pessano con Bornago	VE.MA. SNC	www.vemaonline.it
Italy	Ancona	MANINI SERVICE DI MANINI ALBERTO	www.maniniservice.com
Italy	Prato	TECNOCENTRO	www.tecnocentro.com
Italy	Rosta	BRESINO ENRICO	www.bresino.com
Italy	Occhiobello	ALBERTO BARACCO	www.baracco.biz
Italy	Grugliasco	AG TECHNIK	www.agtechnik.it
Italy	Turin	FIRMA	www.firmafiltrimagnetici.com
Italy	Milano	ATTI	www.atti.it
Italy	Turin	CHIAPEROTTI	www.chiaperotti.com
Italy	Cardano al Campo	AS&D	www.asnd.it
Italy	Falconara Marittima	FILONZI RAPPRESENTANZE	www.filonzirappresentanze.com
USA	Bethlehem	KEYSTONE PLASTICS	www.keystoneplasticsequipment.com
USA	Wadsworth	MIKE CINDIA SALES INC.	www.mcsiengineering.com
USA	Brighton	AIC EQUIPMENT & CONTROLS	www.aicequipment.com
USA	Houston	MERCER PROCESS EQUIPMENT	www.mercersales.com
USA	Waunakee	ROBOTIC AUTOMATION SYSTEMS	www.roboticautomationsystems.com
USA	St. Clair Twp	INTEC SALES	www.intec-sales.com
USA	Jacksonville	ADAMS ENGINEERING	www.adamsengineers.com
USA	Havre de Grace	PARAGON MACHINERY	www.paragonmachinery.net
USA	Lewistown	FALCON PLASTICS MACHINERY	www.falcon-pm.com
USA	Saint Charles	PNA PLASTICS EQUIPMENT	www.pnaplastics.com
USA	New York	AJH & ASSOCIATES	www.ajhassociates.co.uk
USA	Douglas Lee's Summit	MARUKAUSA	www.marukausa.com

APPENDIX 3 – JIX INTERNATIONALIZATION PROGRAM AND BUDGET

JIX Internationalization Program and Budget						
Activity code	Activity	Designation	Expense Category	Program Date	Program Amount [€]	Subvention Amount of 40% [€]
1	Digital Marketing	Digital Marketing Hardware	Equipment	2020-10	1.500,00 €	600,00 €
2	Digital Marketing	Digital Marketing Software	Equipment	2019-10	1.500,00 €	600,00 €
3	Digital Marketing	Digital Marketing Hardware	Software	2019-10	3.000,00 €	1.200,00 €
4	Digital Marketing	Update website	Services	2019-10	1.500,00 €	600,00 €
5	Digital Marketing	Update website	Services	2020-10	1.500,00 €	600,00 €
6	Digital Marketing	Promotion Videos	Services	2019-10	6.000,00 €	2.400,00 €
7	Digital Marketing	Promotion Videos	Services	2020-10	6.000,00 €	2.400,00 €
8	Promotion Releases	press releases - Communication in the specialized press	Agency Services	2019-10	8.500,00 €	3.400,00 €
9	Promotion Releases	press releases - Communication in the specialized press	Agency Services	2020-04	8.500,00 €	3.400,00 €
10	Promotion Releases	press releases - Communication in the specialized press	Agency Services	2020-10	8.500,00 €	3.400,00 €
11	Promotion Releases	press releases - Communication in the specialized press	Agency Services	2021-04	8.500,00 €	3.400,00 €
12	German Chamber of Commerce Services	Sales Representatives Prospection	Services	2019-10	6.500,00 €	2.600,00 €
13	French Chamber of Commerce Services	Sales Representatives Prospection	Services	2019-10	3.200,00 €	1.280,00 €
14	Italian Chamber of Commerce Services	Sales Representatives Prospection	Services	2019-10	3.500,00 €	1.400,00 €
15	Chinese Chamber of Commerce Services	Sales Representatives Prospection	Services	2019-10	8.750,00 €	3.500,00 €
16	US Chamber of Commerce Services	Sales Representatives Prospection	Services	2019-10	4.800,00 €	1.920,00 €
17	Hire a Business Developer to prospect and recruit Sales Representatives	Sales Representatives Recruitment and Support	Cost with hiring technicians	2019-10	10.000,00 €	4.000,00 €
18	Hire a Business Developer to prospect and recruit Sales Representatives	Sales Representatives Recruitment and Support	Cost with hiring technicians	2020-04	10.000,00 €	4.000,00 €
19	Hire a Business Developer to prospect and recruit Sales Representatives	Sales Representatives Recruitment and Support	Cost with hiring technicians	2020-10	10.000,00 €	4.000,00 €
20	Hire a Business Developer to prospect and recruit Sales Representatives	Sales Representatives Recruitment and Support	Cost with hiring technicians	2021-04	10.000,00 €	4.000,00 €
21	Participation in fairs, exhibitions and conference - Germany	K Fair - Germany-space rental	Fairs and exhibitions - Space rental	2019-10	16.500,00 €	6.600,00 €
22	Participation in fairs, exhibitions	K Fair - Stand Construction	Fairs and exhibitions -	2019-10	12.000,00 €	4.800,00 €

	and conference - Germany		Stand Construction			
23	Participation in fairs, exhibitions and conference - Germany	Germany Fairs - transport equipment	Fairs and exhibitions - Other services - Construction	2019-10	1.000,00 €	400,00 €
24	Participation in fairs, exhibitions and conference - Germany	Fair furniture equipment (serves for all fairs)	Fairs and exhibitions - Other services - Construction	2019-10	1.500,00 €	600,00 €
25	Participation in fairs, exhibitions and conference - Germany	Fair furniture equipment (serves for all fairs)	Fairs and exhibitions - Other services - Construction	2019-10	1.000,00 €	400,00 €
26	Participation in fairs, exhibitions and conference - Germany	K Fair trip and accommodation 2 people 10 days	Fairs and exhibitions - Travel and accommodation	2019-10	5.250,00 €	2.100,00 €
27	Participation in fairs, exhibitions and conference - Germany	Fakuma Fair trip and accommodation 2 people 5 days	Fairs and exhibitions - Travel and accommodation	2020-10	2.100,00 €	840,00 €
28	Participation in fairs, exhibitions and conference - Germany	Fakuma Fair - Space Rental	Fairs and exhibitions - Space rental	2020-10	16.500,00 €	6.600,00 €
29	Participation in fairs, exhibitions and conference - Germany	Fakuma Fair - Stand Costs	Fairs and exhibitions - Stand Construction	2020-10	13.500,00 €	5.400,00 €
30	Participation in fairs, exhibitions and conference - Germany	Fakuma Fair - Cost of transportation of equipment	Fairs and exhibitions - Travel and accommodation	2020-10	1.000,00 €	400,00 €
31	Participation in fairs, exhibitions and conference - USA	US Fair - NPE-space rental	Fairs and exhibitions - Space rental	2020-12	21.000,00 €	8.400,00 €
32	Participation in fairs, exhibitions and conference - USA	US Fair - NPE - Stand Cost	Fairs and exhibitions - Stand Construction	2020-12	16.500,00 €	6.600,00 €
33	Participation in fairs, exhibitions and conference - USA	US Fair - NPE- cost of transportation of equipment	Fairs and exhibitions - Travel and accommodation	2020-12	3.000,00 €	1.200,00 €
34	Participation in fairs, exhibitions and conference - USA	US Fair - NPE - one-way trip 3 people	Fairs and exhibitions - Travel and accommodation	2020-12	1.600,00 €	640,00 €
35	Participation in fairs, exhibitions and conference - USA	US Fair - NPE - stay 3 people 5days +2	Fairs and exhibitions - Travel and accommodation	2020-12	1.750,00 €	700,00 €
36	Participation in fairs, exhibitions and conference - China	China-China FairPlast - space rental	Fairs and exhibitions - Space rental	2020-10	13.500,00 €	5.400,00 €
37	Participation in fairs, exhibitions and conference - China	China Trade Fair - Chinaplast - stand cost	Fairs and exhibitions - Stand Construction	2020-10	12.000,00 €	4.800,00 €
38	Participation in fairs, exhibitions and conference - China	China - Chinaplast Fair - cost of transporting equipment to	Fairs and exhibitions - Travel and accommodation	2020-10	6.000,00 €	2.400,00 €
39	Participation in fairs, exhibitions and conference - China	China Fair - Chinaplast - ride one way 3 people	Fairs and exhibitions - Travel and accommodation	2020-10	1.600,00 €	640,00 €

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40	Participation in fairs, exhibitions and conference - China	China Fair - Chinaplast - stay 5 two +2 3 people		Fairs and exhibitions - Travel and accommodation	2020-10	1.750,00 €	700,00 €
41	Promotion of the JIX product - Germany	Product Promotion Germany	Demonstration Action in	Promotion - Travel and accommodation	2019-10	1.500,00 €	600,00 €
42	Promotion of the JIX product - Germany	Product Promotion Germany	Demonstration Action in	Promotion - Travel and accommodation	2020-04	1.500,00 €	600,00 €
43	Promotion of the JIX product - Germany	Product Promotion Germany	Demonstration Action in	Promotion - Travel and accommodation	2020-10	1.500,00 €	600,00 €
44	Promotion of the JIX product - Germany	Product Promotion Germany	Demonstration Action in	Promotion - Travel and accommodation	2021-04	1.500,00 €	600,00 €
45	Promotion of the JIX product - France	Product Promotion	Demonstration Action in France	Promotion - Travel and accommodation	2019-10	1.500,00 €	600,00 €
46	Promotion of the JIX product - France	Product Promotion	Demonstration Action in France	Promotion - Travel and accommodation	2020-04	1.500,00 €	600,00 €
47	Promotion of the JIX product - France	Product Promotion	Demonstration Action in France	Promotion - Travel and accommodation	2020-10	1.500,00 €	600,00 €
48	Promotion of the JIX product - France	Product Promotion	Demonstration Action in France	Promotion - Travel and accommodation	2021-04	1.500,00 €	600,00 €
49	Promotion of the JIX product - Italy	Product Promotion	Demonstration Action in Italy	Promotion - Travel and accommodation	2019-10	1.500,00 €	600,00 €
50	Promotion of the JIX product - Italy	Product Promotion	Demonstration Action in Italy	Promotion - Travel and accommodation	2020-04	1.500,00 €	600,00 €
51	Promotion of the JIX product - Italy	Product Promotion	Demonstration Action in Italy	Promotion - Travel and accommodation	2020-10	1.500,00 €	600,00 €
52	Promotion of the JIX product - Italy	Product Promotion	Demonstration Action in Italy	Promotion - Travel and accommodation	2021-04	1.500,00 €	600,00 €
53	Promotion of the JIX product - USA	Product Promotion	Demonstration Action in USA	Promotion - Travel and accommodation	2019-10	3.000,00 €	1.200,00 €
54	Promotion of the JIX product - USA	Product Promotion	Demonstration Action in USA	Promotion - Travel and accommodation	2020-04	3.000,00 €	1.200,00 €
55	Promotion of the JIX product - USA	Product Promotion	Demonstration Action in USA	Promotion - Travel and accommodation	2020-10	3.000,00 €	1.200,00 €
56	Promotion of the JIX product - USA	Product Promotion	Demonstration Action in USA	Promotion - Travel and accommodation	2021-04	3.000,00 €	1.200,00 €
57	Promotion of the JIX product- China	Product Promotion	Demonstration Action in China	Promotion - Travel and accommodation	2019-10	3.000,00 €	1.200,00 €
58	Promotion of the JIX product- China	Product Promotion	Demonstration Action in China	Promotion - Travel and accommodation	2020-04	3.000,00 €	1.200,00 €
59	Promotion of the JIX product- China	Product Promotion	Demonstration Action in China	Promotion - Travel and accommodation	2020-10	3.000,00 €	1.200,00 €
60	Promotion of the JIX product- China	Product Promotion	Demonstration Action in China	Promotion - Travel and accommodation	2021-04	3.000,00 €	1.200,00 €
61	Promotion of the JIX product - Germany	Roadshow Action in Germany		Promotion - Travel and accommodation	2019-10	3.000,00 €	1.200,00 €
62	Promotion of the JIX product - Germany	Roadshow Action in Germany		Promotion - Travel and accommodation	2020-04	3.000,00 €	1.200,00 €
63	Promotion of the JIX product - Germany	Roadshow Action in Germany		Promotion - Travel and accommodation	2020-10	3.000,00 €	1.200,00 €

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64	Promotion of the JIX product - Germany	Roadshow Action in Germany	Promotion - Travel and accommodation	2021-04	3.000,00 €	1.200,00 €
65	Promotion of the JIX product - France	Roadshow Action in France	Promotion - Travel and accommodation	2019-10	3.000,00 €	1.200,00 €
66	Promotion of the JIX product - France	Roadshow Action in France	Promotion - Travel and accommodation	2020-04	3.000,00 €	1.200,00 €
67	Promotion of the JIX product - France	Roadshow Action in France	Promotion - Travel and accommodation	2020-10	3.000,00 €	1.200,00 €
68	Promotion of the JIX product - France	Roadshow Action in France	Promotion - Travel and accommodation	2021-04	3.000,00 €	1.200,00 €
69	Promotion of the JIX product - Italy	Roadshow Action in Italy	Promotion - Travel and accommodation	2019-10	3.000,00 €	1.200,00 €
70	Promotion of the JIX product - Italy	Roadshow Action in Italy	Promotion - Travel and accommodation	2020-04	3.000,00 €	1.200,00 €
71	Promotion of the JIX product - Italy	Roadshow Action in Italy	Promotion - Travel and accommodation	2020-10	3.000,00 €	1.200,00 €
72	Promotion of the JIX product - Italy	Roadshow Action in Italy	Promotion - Travel and accommodation	2021-04	3.000,00 €	1.200,00 €
73	Promotion of the JIX product - USA	Roadshow Action in USA	Promotion - Travel and accommodation	2019-10	6.000,00 €	2.400,00 €
74	Promotion of the JIX product - USA	Roadshow Action in USA	Promotion - Travel and accommodation	2020-04	6.000,00 €	2.400,00 €
75	Promotion of the JIX product - USA	Roadshow Action in USA	Promotion - Travel and accommodation	2020-10	6.000,00 €	2.400,00 €
76	Promotion of the JIX product - USA	Roadshow Action in USA	Promotion - Travel and accommodation	2021-04	6.000,00 €	2.400,00 €
77	Promotion of the JIX product- China	Roadshow Action in China	Promotion - Travel and accommodation	2019-10	6.000,00 €	2.400,00 €
78	Promotion of the JIX product- China	Roadshow Action in China	Promotion - Travel and accommodation	2020-04	6.000,00 €	2.400,00 €
79	Promotion of the JIX product- China	Roadshow Action in China	Promotion - Travel and accommodation	2020-10	6.000,00 €	2.400,00 €
80	Promotion of the JIX product- China	Roadshow Action in China	Promotion - Travel and accommodation	2021-04	6.000,00 €	2.400,00 €
81	Promotion of the JIX product - Germany	Prospection Action in Germany	Promotion - Travel and accommodation	2019-10	3.000,00 €	1.200,00 €
82	Promotion of the JIX product - Germany	Prospection Action in Germany	Promotion - Travel and accommodation	2020-04	3.000,00 €	1.200,00 €
83	Promotion of the JIX product - Germany	Prospection Action in Germany	Promotion - Travel and accommodation	2020-10	3.000,00 €	1.200,00 €
84	Promotion of the JIX product - Germany	Prospection Action in Germany	Promotion - Travel and accommodation	2021-04	3.000,00 €	1.200,00 €
85	Promotion of the JIX product - France	Prospection Action in France	Promotion - Travel and accommodation	2019-10	3.000,00 €	1.200,00 €
86	Promotion of the JIX product - France	Prospection Action in France	Promotion - Travel and accommodation	2020-04	3.000,00 €	1.200,00 €
87	Promotion of the JIX product - France	Prospection Action in France	Promotion - Travel and accommodation	2020-10	3.000,00 €	1.200,00 €

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88	Promotion of the JIX product - France	Prospection Action in France	Promotion - Travel and accommodation	2021-04	3.000,00 €	1.200,00 €
89	Promotion of the JIX product - Italy	Prospection Action in Italy	Promotion - Travel and accommodation	2019-10	3.000,00 €	1.200,00 €
90	Promotion of the JIX product - Italy	Prospection Action in Italy	Promotion - Travel and accommodation	2020-04	3.000,00 €	1.200,00 €
91	Promotion of the JIX product - Italy	Prospection Action in Italy	Promotion - Travel and accommodation	2020-10	3.000,00 €	1.200,00 €
92	Promotion of the JIX product - Italy	Prospection Action in Italy	Promotion - Travel and accommodation	2021-04	3.000,00 €	1.200,00 €
93	Promotion of the JIX product - USA	Prospection Action in USA	Promotion - Travel and accommodation	2019-10	6.000,00 €	2.400,00 €
94	Promotion of the JIX product - USA	Prospection Action in USA	Promotion - Travel and accommodation	2020-04	6.000,00 €	2.400,00 €
95	Promotion of the JIX product - USA	Prospection Action in USA	Promotion - Travel and accommodation	2020-10	6.000,00 €	2.400,00 €
96	Promotion of the JIX product - USA	Prospection Action in USA	Promotion - Travel and accommodation	2021-04	6.000,00 €	2.400,00 €
97	Promotion of the JIX product- China	Prospection Action in China	Promotion - Travel and accommodation	2019-10	6.000,00 €	2.400,00 €
98	Promotion of the JIX product- China	Prospection Action in China	Promotion - Travel and accommodation	2020-04	6.000,00 €	2.400,00 €
99	Promotion of the JIX product- China	Prospection Action in China	Promotion - Travel and accommodation	2020-10	6.000,00 €	2.400,00 €
100	Promotion of the JIX product- China	Prospection Action in China	Promotion - Travel and accommodation	2021-04	6.000,00 €	2.400,00 €
101	Demonstration technical center - Europe	JIX démonstration space rental Europe - France	Rental service	2019-10	2.000,00 €	800,00 €
102	Demonstration technical center - Europe	JIX démonstration space rental Europe - France	Rental service	2020-04	2.000,00 €	800,00 €
103	Demonstration technical center - Europe	JIX démonstration space rental Europe - France	Rental service	2020-10	2.000,00 €	800,00 €
104	Demonstration technical center - Europe	JIX démonstration space rental Europe - France	Rental service	2021-04	2.000,00 €	800,00 €
105	Demonstration technical center - USA	JIX démonstration space rental USA	Rental service	2019-10	5.000,00 €	2.000,00 €
106	Demonstration technical center - USA	JIX démonstration space rental USA	Rental service	2020-04	5.000,00 €	2.000,00 €
107	Demonstration technical center - USA	JIX démonstration space rental USA	Rental service	2020-10	5.000,00 €	2.000,00 €
108	Demonstration technical center - USA	JIX démonstration space rental USA	Rental service	2021-04	5.000,00 €	2.000,00 €
109	Demonstration technical center - China	JIX demonstration space rental China	Rental service	2019-10	3.500,00 €	1.400,00 €
110	Demonstration technical center - China	JIX demonstration space rental China	Rental service	2020-04	3.500,00 €	1.400,00 €
111	Demonstration technical center - China	JIX demonstration space rental China	Rental service	2020-10	3.500,00 €	1.400,00 €

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112	Demonstration technical center - China	JIX demonstration space rental China	Rental service	2021-04	3.500,00 €	1.400,00 €
113	International accounting consultancy for a specific market	Accounting and Marketing services	Accounting and Marketing	2019-10	2.500,00 €	1.000,00 €
114	International accounting consultancy for a specific market	Accounting and Marketing services	Accounting and Marketing	2020-04	2.500,00 €	1.000,00 €
115	International accounting consultancy for a specific market	Accounting and Marketing services	Accounting and Marketing	2020-10	2.500,00 €	1.000,00 €
116	International accounting consultancy for a specific market	Accounting and Marketing services	Accounting and Marketing	2021-04	2.500,00 €	1.000,00 €
117	Management of open innovation (market-oriented)	Product design-product adaptation	Studies and Diagnostics	2019-10	4.800,00 €	1.920,00 €
118	Management of open innovation (market-oriented)	Product design-product adaptation	Studies and Diagnostics	2020-04	4.800,00 €	1.920,00 €
119	Management of open innovation (market-oriented)	Product design-product adaptation	Studies and Diagnostics	2020-10	4.800,00 €	1.920,00 €
120	Management of open innovation (market-oriented)	Product design-product adaptation	Studies and Diagnostics	2021-04	4.800,00 €	1.920,00 €
121	Intellectual property protection	Patent registration Vietnam, Laos, Cambodia, Indonesia Malaysia and Korea	Patent Registration	2019-10	12.000,00 €	4.800,00 €
122	Intellectual property protection	Patent registration Vietnam, Laos, Cambodia, Indonesia Malaysia and Korea	Patent Registration	2020-04	12.000,00 €	4.800,00 €
123	Intellectual property protection	Patent registration Vietnam, Laos, Cambodia, Indonesia Malaysia and Korea	Patent Registration	2020-10	12.000,00 €	4.800,00 €
124	Intellectual property protection	Patent registration Vietnam, Laos, Cambodia, Indonesia Malaysia and Korea	Patent Registration	2021-04	12.000,00 €	4.800,00 €
TOTAL					600.000,00 €	240.000,00 €